

Wind Diesel Workshop

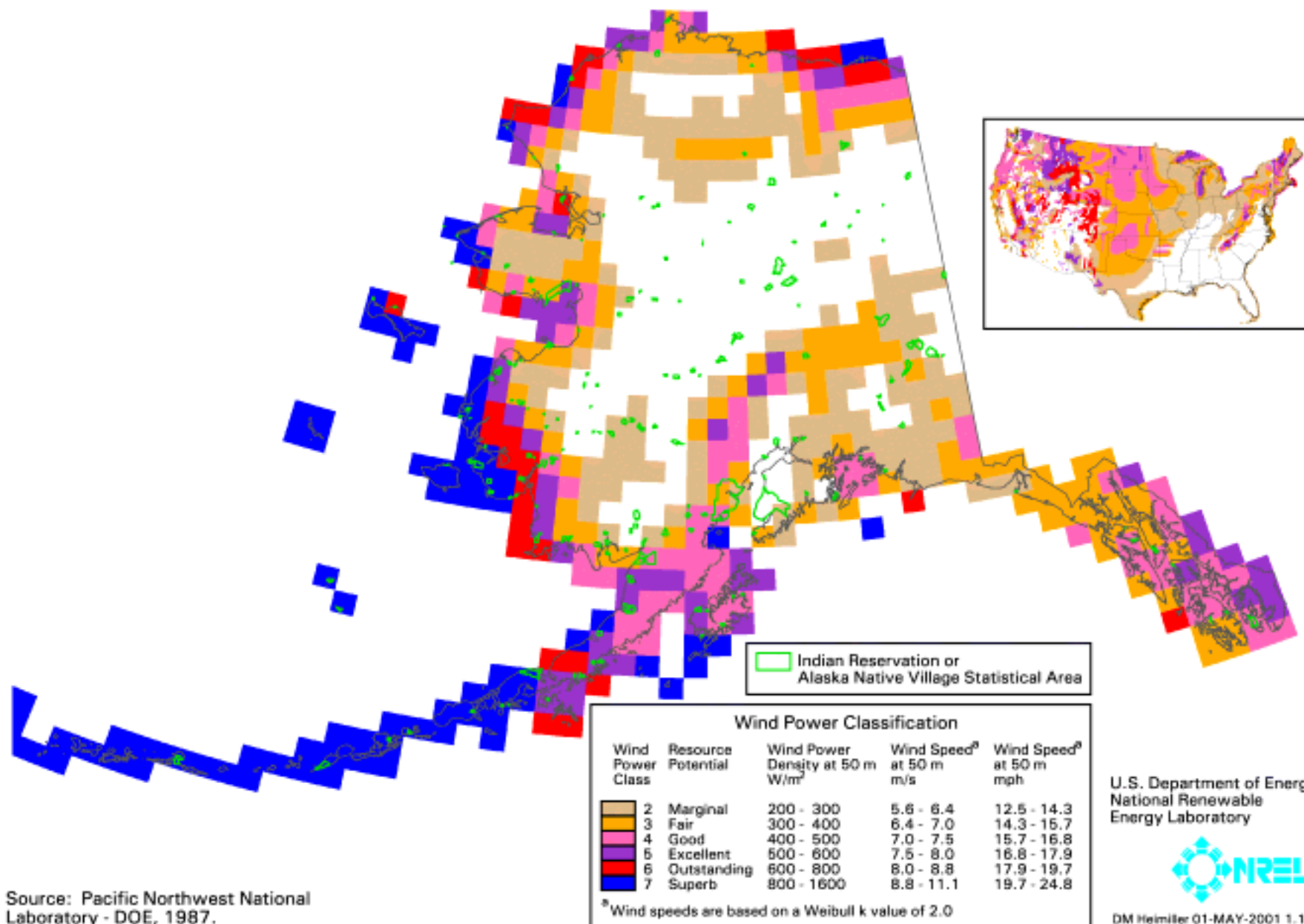
Girdwood, AK

September 30, 2004

*Brief Market Assessment for Wind Energy
Systems in Alaska*



Alaska - Wind Resource Map



Source: Pacific Northwest National Laboratory - DOE, 1987.

Saudis to Boost Oil Production Capacity as Price Hits \$50

By JAD MOUAWAD

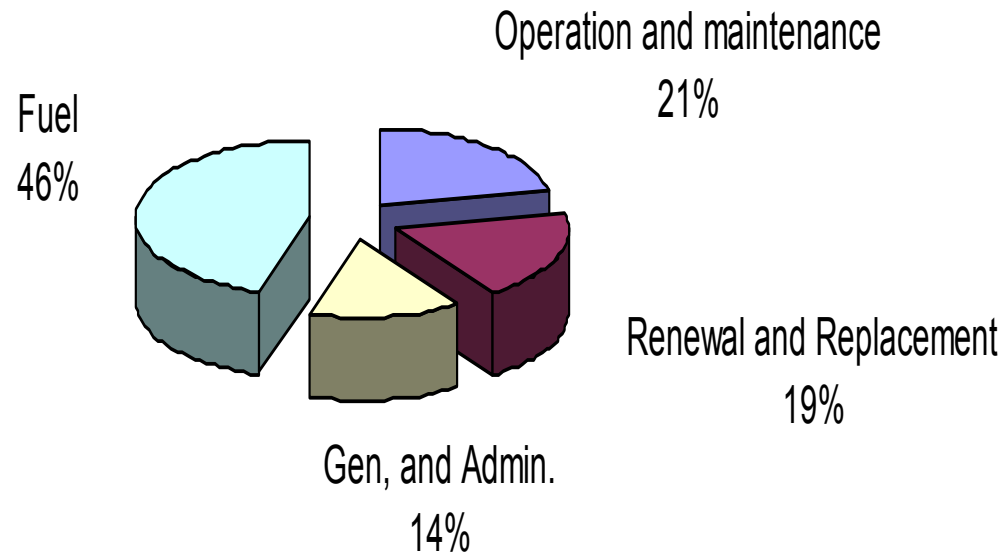
PARIS, Sept. 28 — The price of oil, which has been rising for the last two years, broke through the \$50-a-barrel mark today, reaching a new milestone as some analysts warned that there was nothing to stop prices from rising further.

“The market is looking for a new equilibrium point and no one knows where that will be,” said Jamal Qureshi, an analyst at PFC Energy, an oil consultant based in Washington. “We still have a way to go. I wouldn't be surprised to see \$60 a barrel.”

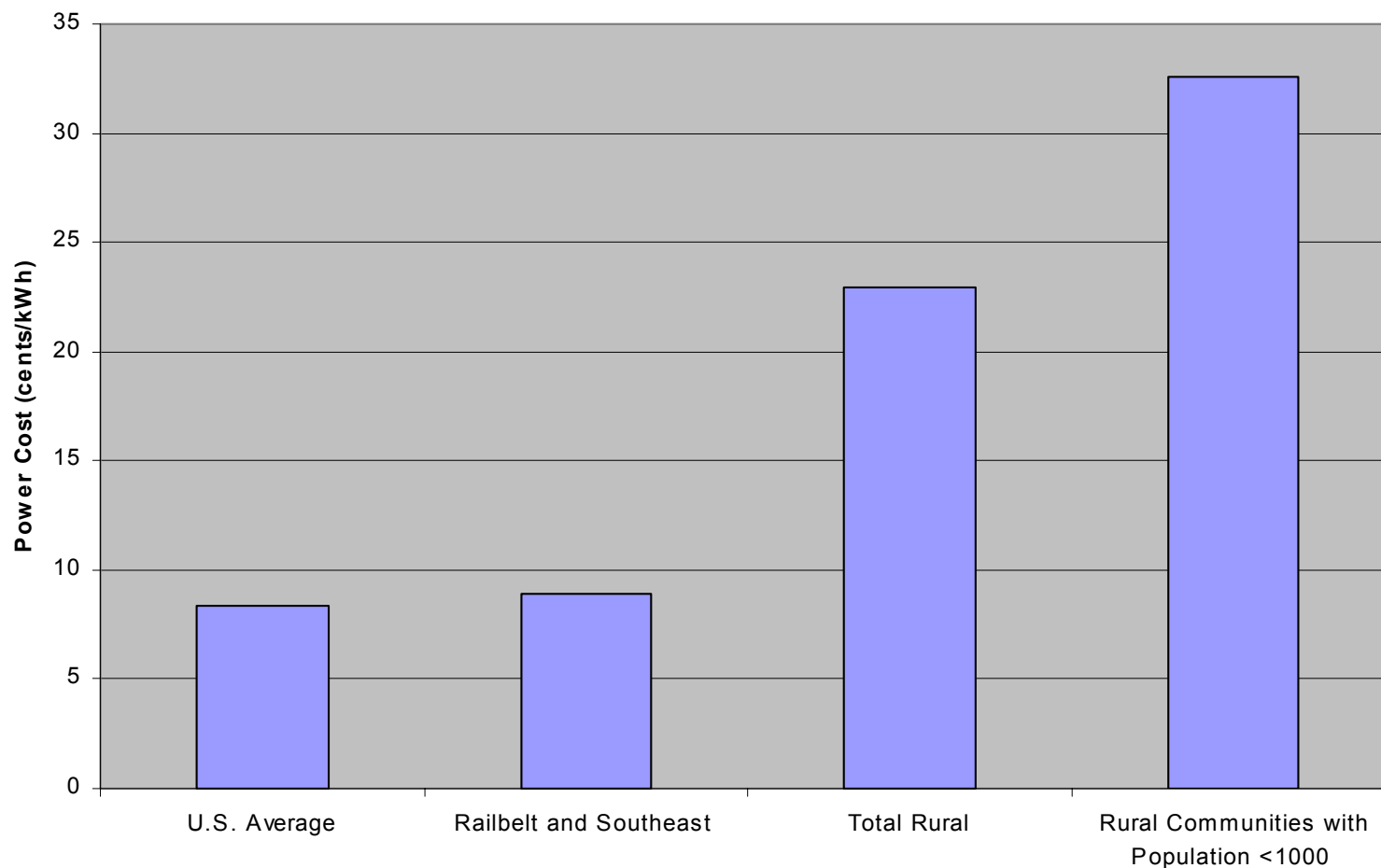


Breakdown of “Typical Village” Power Price


Total = 38 cents/kWh



Average Delivered Power Cost: Selected Alaskan Regions and the United States



Wind Energy

- High wind potential, high diesel prices, and declining cost of wind capital and operating costs  Opportunity

- Initial market assessment supports

Detailed reconnaissance ~\$2 million

Capital investment ~\$28 million

(Rural Energy Plan)

Markets



Technical and Operational Issues

- Equipment Availability
- Cold weather performance
- System Integration
- Remote operation and reliability
- Logistical constraints
- Unknowns (O&M, how to value, etc.)

O&M Concerns

- Need operator capable of turbine maintenance in addition to Diesel Gensets
- Increased complexity of control systems
- Major maintenance w/o crane
- Looking to regional hubs, firms with special expertise, and fleet deployment



Strategies for Reducing Costs

- Standardization and Critical mass
- Hybrid ready
- Innovations
- Partnerships
- Piggybacking
- Regional grouping





www.aidea.org/aea.htm

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Thank you.

